Telephone Talk

Middle School
Math
Performance Task

by
Tonna Lynons

MAP Senior Leader

Northwest R-I School District

St. Louis Regional MAP Center

Telephone Talk

Purpose: This performance task will assess the student's ability to communicate accurately the description of a geometric design in such a way that someone else could construct the design described. Then, the student will draw the design based on their set of written directions. The student must reproduce the geometric design by measuring arcs and using a ruler, compass, and protractor. Additionally, he/she must inscribe a polygon in a circle, measure angles with a protractor, and construct a circle with a compass.

Show-Me Standards Addressed:

Knowledge: M2, M4
Performance: 2.1

Grade Level Range: Middle School Level

Subject Area: Math

Materials and Resources Needed: pencil, compass, protractor, ruler, Student Performance Task Packet (including the Student Prompt, the Response Sheets, and the Scoring Guide).

Time Needed for Task: 1-2 Class Periods

Instructions for Administration: Provide students with a Student Performance Task Packet. Make sure they understand the directions within the student prompt. Tell students they may use a compass, protractor, and ruler to construct their design on the Student Response Sheets. They will need to write their directions for drawing the design on the sheet provided. Go over the scoring guide so students understand what a quality performance involves.

Pre-assessment Instructions: Students will have to have the prerequisite knowledge of measuring angles, reading a ruler, using a compass to construct arcs, constructing angles with a protractor, and inscribing polygons in a circle.

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Teacher will paste an appropriate shape in this space.

Imagine you are talking to a friend on the telephone. How would you describe the design above so that your friend could draw it exactly as shown? Make a written set of directions that your friend can follow to reproduce the design without ever seeing it.

In your detailed set of directions for drawing the geometric design, you must use geometric terms where necessary and be as accurate as possible with the measurements. You may use a ruler, compass, and protractor. After you have finished writing the process for reproducing the design, draw your design following your set of directions.

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Make a detailed set of directions that your friend can follow to reproduce the design without ever seeing it.

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Use your written set of directions to draw your design.

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Scoring Guide

Complete and Accurate Understanding: 4
A reader would be successful in reproducing the design in the problem, by following the student's written directions. The process to complete the task was logical and focused. In addition, the student used appropriate geometry language in his/her description and/or referred to patterns in the design to clarify the instructions. The student was able to reproduce an identical design by following his/her own set of written directions.

Significant Understanding: 3
A reader would be significantly successful in reproducing the design in the problem, by following the student's written directions. The process to complete the task was logical but lacked focus at one or two points in the process. In addition, the student used some appropriate geometry language in his/her description and/or referred to patterns in the design to clarify the instructions. The student was able to reproduce a design that closely matched the original design by following his/her own set of written directions.

Partial Understanding: 2
A reader would have partial success in reproducing the design in the problem, by following the student's written directions. The process to complete the task may be unfocused or lack direction. The student used little, if any, appropriate geometry language in his/her description and minimally, if at all, referred to patterns in the design to clarify the instructions. The student was partially successful in reproducing a design that matched the original design by following his/her own set of written directions.

Little or No Understanding: 1
A reader would have little or no success in reproducing the design in the problem, by following the student's written directions. The process to complete the task shows confusion and little understanding of the needed mathematical skills to do the task. The student may or may not have attempted to reproduce the design. If an attempt was made, it contained critical errors.

No Attempt or Off Task: 0